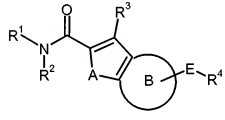
AMENDMENT

It is respectfully requested that the claims be amended without prejudice, as follows. The following listing of claims shall replace all prior claims.

IN THE CLAIMS:

1. (Currenlty Amended) A compound of formula (I): ~~Compounds of the formula~~



(I),

in which

R^1 is 1-azabicyclo[2.2.2]oct-3-yl, which is optionally substituted via the nitrogen atom by a radical selected from the group of C_1-C_4-alkyl, benzyl and oxy,

R^2 is hydrogen or C_1-C_6-alkyl,

R^3 is hydrogen, halogen or C_1-C_6-alkyl,

R^4 is hydrogen, halogen, cyano, amino, trifluoromethyl, trifluoromethoxy, C_1-C_6-alkyl, C_1-C_6-alkylcarbonyl, C_1-C_6-alkylamino, formyl, hydroxycarbonyl, C_1-C_6-alkoxy, C_1-C_6-alkoxycarbonyl, C_1-C_6-alkylthio, C_1-C_6-alkylcarbonylamino, C_1-C_6-alkylaminocarbonyl, C_1-C_4-alkylsulphonylamino, C_3-C_8-cycloalkylcarbonyl-amino, C_3-C_6-cycloalkylaminocarbonyl, pyrrolyl, C_1-C_6-

alkylaminocarbonylamino, heterocyclylcarbonyl, heterocyclylcarbonylamino, heteroarylcarbonylamino, hydroxyl, phenyl or heterocyclyl,

where C_1-C_6-alkyl may optionally be substituted by hydroxyl, cyano, amino, C_1-C_6-alkylaminocarbonylamino, C_1-C_6-alkylaminocarboxyl, heterocyclyl or aryl,

C_1-C_6-alkylaminocarbonyl may optionally be substituted by C_1-C_6-alkoxy or C_1-C_6-alkylamino,

C_1-C_6-alkylcarbonylamino may optionally be substituted by C_1-C_6-alkoxy, and heterocyclyl may optionally be substituted by oxo,

A is oxygen or sulphur,

the ring B is benzo or pyrido, each of which are optionally substituted by radicals from the series halogen, cyano, formyl, trifluoromethyl, trifluoromethoxy, nitro, amino, C_1-C_6-alkyl and C_1-C_6-alkoxy,

and

E is C≡C, arylene and heteroarylene, where arylene and heteroarylene may be substituted by radicals from the series halogen, cyano, trifluoromethyl, trifluoromethoxy, nitro, amino, C_1-C_6-alkoxy and C_1-C_6-alkyl,

~~and the solvates, salts or solvates of the salts of these compounds~~
or a solvate, a salt or a solvate of a salt thereof.

2. (Currently Amended) The compound of formula (I) of Claim 1~~Compounds according to Claim 1, of the formula (I)~~, in which

R^1 is 1-azabicyclo[2.2.2]oct-3-yl,

R^2 is hydrogen or C_1-C_4-alkyl,

R^3 is hydrogen, fluorine, chlorine, bromine or C_1-C_4-alkyl,

R^4 is hydrogen, fluorine, chlorine, bromine, cyano, amino, trifluoromethyl, trifluoromethoxy, C_1-C_4-alkyl, C_1-C_4-alkylcarbonyl, C_1-C_4-alkylamino, formyl, hydroxycarbonyl, C_1-C_4-alkoxy, C_1-C_4-alkoxycarbonyl, C_1-C_4-alkylthio, C_1-C_4-alkylcarbonylamino, C_1-C_4-alkylaminocarbonyl, C_1-C_4-alkylsulphonylamino, C_3-C_6-cycloalkylcarbonylamino, C_3-C_6-cycloalkylaminocarbonyl, pyrrolyl, C_1-C_4-alkylaminocarbonylamino, heterocyclylcarbonyl, heterocyclylcarbonylamino, heteroarylcarbonylamino, hydroxyl, phenyl or heterocyclyl,

where C_1-C_4-alkyl may optionally be substituted by hydroxyl, cyano, amino, C_1-C_4-alkylaminocarbonylamino, C_1-C_4-alkylaminocarboxyl, heterocyclyl or aryl,

C_1-C_4-alkylaminocarbonyl may optionally be substituted by C_1-C_4-alkoxy or C_1-C_4-alkylamino,

C_1-C_4-alkylcarbonylamino may optionally be substituted by C_1-C_4-alkoxy, and heterocyclyl may optionally be substituted by oxo,

A is oxygen or sulphur,

the ring B is benzo or pyrido, each of which are optionally substituted by radicals from the series halogen, cyano, trifluoromethyl, trifluoromethoxy and C_1-C_4-alkyl,

and

E is C≡C, arylene and heteroarylene, where arylene and heteroarylene may be substituted by radicals from the series halogen, cyano, trifluoromethyl, trifluoromethoxy, nitro, amino, C_1-C_4-alkoxy and C_1-C_4-alkyl,

~~and the solvates, salts or solvates of the salts of these compounds~~
or a solvate, a salt or a solvate of a salt thereof.

3. (Currently Amended) The compound of formula (I) of Claim 1, ~~Compounds according to Claims 1 and 2, of the formula (I),~~ in which

R^1 is 1-azabicyclo[2.2.2]oct-3-yl,

R^2 and R^3 are hydrogen,

R^4 is hydrogen, fluorine, chlorine, bromine, cyano, amino, trifluoromethyl, trifluoromethoxy, C_1-C_4-alkyl, C_1-C_4-alkylcarbonyl, C_1-C_4-alkylamino, formyl, hydroxycarbonyl, C_1-C_4-alkoxy, C_1-C_4-alkoxycarbonyl, C_1-C_6-alkylthio, C_1-C_4-alkylcarbonylamino, C_1-C_4-alkylaminocarbonyl, C_1-C_4-alkylsulphonylamino, C_3-C_6-cycloalkylcarbonylamino, C_3-C_6-cycloalkylaminocarbonyl, pyrrolyl, C_1-C_4-alkylaminocarbonylamino, heterocyclylcarbonyl, heterocyclylcarbonylamino, heteroarylcarbonylamino, hydroxyl, phenyl or heterocyclyl,

where C_1-C_4-alkyl may optionally be substituted by hydroxyl, cyano, amino, C_1-C_4-alkylaminocarbonylamino, C_1-C_4-alkylaminocarboxyl, heterocyclyl or aryl,

C_1-C_4-alkylaminocarbonyl may optionally be substituted by C_1-C_4-alkoxy or C_1-C_4-alkylamino,

C_1-C_4-alkylcarbonylamino may optionally be substituted by C_1-C_4-alkoxy, and heterocyclyl may optionally be substituted by oxo,

A is oxygen,

the ring B is benzo or pyrido, each of which are optionally substituted by radicals from the series halogen, cyano, trifluoromethyl, trifluoromethoxy and C_1-C_4-alkyl,

and

E is C≡C, arylene and heteroarylene, where arylene and heteroarylene may be substituted by radicals from the series halogen, cyano, trifluoromethyl, trifluoromethoxy, nitro, amino, C_1-C_4-alkoxy and C_1-C_4-alkyl,

~~and the solvates, salts or solvates of the salts of these compounds~~
or a solvate, a salt or a solvate of a salt thereof.

4. (Currently Amended) A compound of formula (I) of Claim 1, ~~Compounds according to Claims 1 to 3, of the formula (I),~~ in which

R^1 is 1-azabicyclo[2.2.2]oct-3-yl,

R^2 is hydrogen or C_1-C_6-alkyl,

R^3 is hydrogen, halogen or C_1-C_6-alkyl,

R^4 is hydrogen, halogen, cyano, amino, trifluoromethyl, trifluoromethoxy, C_1-C_6-alkyl, C_1-C_6-alkylcarbonyl, C_1-C_6-alkylamino, formyl, hydroxycarbonyl, C_1-C_6-alkoxy, C_1-C_6-alkoxycarbonyl, C_1-C_6-alkylthio, C_1-C_6-alkylcarbonylamino, C_1-C_4-alkylsulphonylamino, C_3-C_8-cycloalkylcarbonylamino, pyrrolyl, C_1-C_6-alkylaminocarbonylamino, heterocyclylcarbonyl, phenyl or heterocyclyl,

where C_1-C_6-alkyl may optionally be substituted by hydroxyl, amino, C_1-C_6-alkylaminocarbonylamino, C_1-C_6-alkylaminocarboxyl, heterocyclyl or aryl,

C_1-C_6-alkylcarbonylamino may optionally be substituted by C_1-C_6-alkoxy, and

heterocyclyl may optionally be substituted by oxo,

A is oxygen or sulphur,

the ring B is benzo or pyrido, each of which are optionally substituted by radicals from the series halogen, cyano, formyl, trifluoromethyl, trifluoromethoxy, nitro, amino, C_1-C_6-alkyl and C_1-C_6-alkoxy,

and

E is C≡C, arylene and heteroarylene, where arylene and heteroarylene are optionally substituted by radicals from the series halogen, cyano, trifluoromethyl, trifluoromethoxy, nitro, amino, C_1-C_6-alkoxy and C_1-C_6-alkyl,

~~and the solvates, salts or solvates of the salts of these compounds~~
or a solvate, a salt or a solvate of a salt thereof.

5. (Currently Amended) The compound of formula (I) of Claim 1, ~~Compounds of the formula (I) according to Claims 1 to 4,~~ in which

R^1 is 1-azabicyclo[2.2.2]oct-3-yl,

R^2 is hydrogen or C_1-C_6-alkyl,

R^3 is hydrogen, halogen or C_1-C_6-alkyl,

R^4 is hydrogen, halogen, cyano, trifluoromethyl, trifluoromethoxy, C_1-C_6-alkyl, C_1-C_6-alkoxy or heterocyclyl, where alkyl is optionally substituted by a hydroxyl radical,

A is oxygen or sulphur,

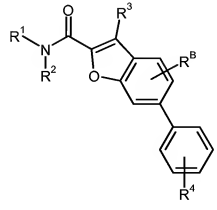
the ring B is benzo or pyrido, each of which are optionally substituted by radicals from the series halogen, cyano, trifluoromethyl, trifluoromethoxy, nitro, amino, C_1-C_6-alkyl and C_1-C_6-alkoxy,

and

E is C≡C, arylene or heteroarylene, where arylene and heteroarylene are optionally substituted by radicals from the series halogen, cyano, trifluoromethyl, trifluoromethoxy, nitro, amino, C_1-C_6-alkyl and C_1-C_6-alkoxy,

~~and the solvates, salts or solvates of the salts of these compounds~~
or a solvate, a salt or a solvate of a salt thereof.

6. (Currently Amended) The compound of claim 1 having the formula (Ia)~~Compounds according to Claims 1 to 5, of the formula~~



(Ia),

in which

R^1 is (3*R*)-1-azabicyclo[2.2.2]oct-3-yl,

R^2 and R^3 are, independently of one another, hydrogen or methyl,

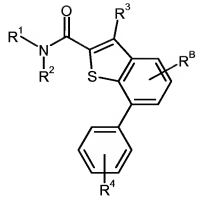
R^4 is hydrogen, halogen, cyano, trifluoromethyl, trifluoromethoxy, C_1-C_6-alkyl, C_1-C_6-alkoxy or heterocyclyl, where alkyl is optionally substituted by a hydroxyl radical,

and

R^B is hydrogen, halogen, cyano, trifluoromethyl, trifluoromethoxy, nitro, amino, C_1-C_6-alkyl or C_1-C_6-alkoxy,

~~and the solvates, salts or solvates of the salts of these compounds~~
or a solvate, a salt or a solvate of a salt thereof.

7. (Currently Amended) The compound of claim 1 having the formula (Ib)~~Compounds according to Claims 1 to 6, of the formula~~



(Ib),

in which

R^1 is (3*R*)-1-azabicyclo[2.2.2]oct-3-yl,

R^2 and R^3 are, independently of one another, hydrogen or methyl,

R^4 is hydrogen, halogen, cyano, trifluoromethyl, trifluoromethoxy, C_1-C_6-alkyl, C_1-C_6-alkoxy or heterocyclyl, where alkyl is optionally substituted by a hydroxyl radical, and

R^B is hydrogen, halogen, cyano, trifluoromethyl, trifluoromethoxy, nitro, amino, C_1-C_6-alkyl and C_1-C_6-alkoxy,

~~and the solvates, salts or solvates of the salts of these compounds~~
or a solvate, a salt or a solvate of a salt thereof.

8. (Currently Amended) The compound of Claim 1, wherein ~~Compounds according to Claims 1 to 7, where~~

R^1 is (3*R*)-1-azabicyclo[2.2.2]oct-3-yl,

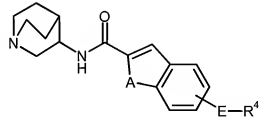
R^2 and R^3 are hydrogen,

R^4 is hydrogen, fluorine, chlorine, bromine, trifluoromethoxy, hydroxymethyl, methoxy or 6-membered heterocyclyl and

R^B is hydrogen, halogen, cyano, trifluoromethyl, trifluoromethoxy or C_1-C_4-alkyl,

~~and the solvates, salts or solvates of the salts of these compounds~~
or a solvate, a salt or a solvate of a salt thereof.

9. (Currently Amended) The compound of claim 1 having the formula (Ic) ~~Compounds according to Claims 1 to 8, of the formula~~

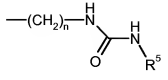


(Ic),

in which

E is phenylene,

R^4 is C_1-C_6-alkoxy, aminomethyl, hydroxycarbonyl, C_3-C_8-cycloalkylcarbonylamino, a group of the formula



,

where

R^5 is C_1-C_6-alkyl,

n is zero, 1, 2, 3 or 4,

or

5- to 6-membered heterocyclyl which is optionally substituted by oxo,

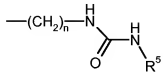
A is sulphur or oxygen,

~~and the solvates, salts or solvates of the salts of these compounds~~
or a solvate, a salt or a solvate of a salt thereof.

10. (Currently Amended) The compound of claim 9 ~~Compounds according to Claims 1 to 9, of the formula (Ic)~~, in which

E is phenylene,

R^4 is C_1-C_4-alkoxy, aminomethyl, hydroxycarbonyl, C_3-C_6-cycloalkylcarbonylamino, a group of the formula



,

where

R^5 is C_1-C_4-alkyl,

n is zero, 1 or 2,

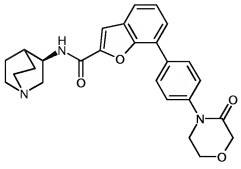
or

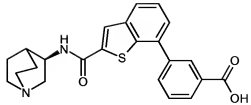
5- to 6-membered heterocyclyl which is optionally substituted by oxo,

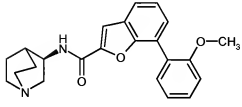
A is sulphur or oxygen,

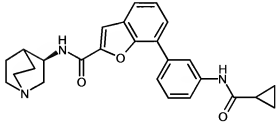
~~and the solvates, salts or solvates of the salts of these compounds~~
or a solvate, a salt or a solvate of a salt thereof.

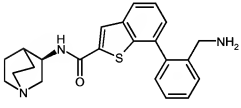
11. (Currently Amended) The compound of claim 1 ~~Compounds according to Claims 1 to 10, of the following formulae~~

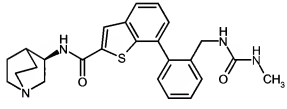




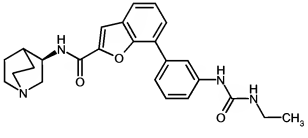








or



~~and the solvates, salts or solvates of the salts of these compounds~~

or a solvate, a salt or a solvate of a salt thereof.

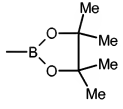
12. (Currently Amended) A process ~~Process~~ for the preparation of ~~the compounds~~ a compound of ~~the~~ formula (I) of Claim 1, in which ~~compounds~~ a compound of ~~the~~ formula (II)

$$X^1\text{-}E\text{-}R^4 \quad (II),$$

in which

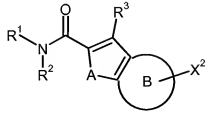
R^4 has the meanings indicated in Claim 1, and

X^1 is $-B(OH)_2$ or



in the case where E is arylene or heteroarylene, and is hydrogen in the case where E is -C≡C-,

~~are reacted~~ is reacted with a compound of the formula (III)



(III),

in which

R^1, R^2, R^3, A and the ring B have the meanings indicated in Claim 1, and

X^2 is triflate or halogen, preferably chlorine, bromine or iodine,

and where appropriate

[A] the resulting ~~compounds~~ compound of formula (I) ~~are~~ is alkylated on the quinuclidine nitrogen atom with an appropriate alkylating ~~reagents~~ reagent, or

[B] the resulting ~~compounds~~ compound of formula (I) ~~are~~ is oxidized on the quinuclidine nitrogen atom with a suitable oxidizing ~~agents~~ agent,

and the resulting ~~compounds~~ compound of formula (I) ~~are~~ is optionally converted ~~into their solvates, salts or solvates of the salts~~ to a solvate, a salt, or a solvate of a salt ~~where appropriate~~ with ~~the appropriate (i) solvents and/or (ii) bases or acids~~ an appropriate (i) solvent and/or (ii) base or acid.

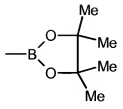
13. (Currently Amended) A process ~~Process~~ for the preparation of ~~the compounds of the invention~~ a compound of the formula (I) of Claim 1, in which ~~compounds~~ a compound of ~~the~~ formula (II)

$$X^1\text{-}E\text{-}R^4 \quad (II),$$

in which

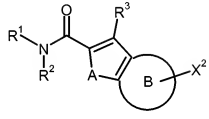
R^4 has the meanings indicated in Claim 1, and

X^1 is $-B(OH)_2$ or



in the case where E is arylene or heteroarylene, and is hydrogen in the case where E is -C≡C-,

~~are reacted~~ is reacted with a compound of the formula (III)



(III),

in which

R^1, R^2, R^3, A and the ring B have the meanings indicated in Claim 1, and

X^2 is triflate or halogen, preferably chlorine, bromine or iodine,

and the resulting ~~compounds~~ compound of formula (I) ~~are~~ is optionally converted ~~into their solvates, salts or solvates of the salts~~ to a solvate, a salt, or a solvate of a salt ~~where~~

~~appropriate~~ with ~~the appropriate (i) solvents and/or (ii) bases or acids~~ an appropriate (i) solvent and/or (ii) base or acid.

14. (Canceled)

15. (Currently Amended) A pharmaceutical composition ~~Medicament~~ comprising at least one compound according to any of Claims 1 to 11 and at least one pharmaceutically acceptable, essentially nontoxic carrier or excipient.

16. (Canceled)

17. (Canceled)

18. (Canceled)

19. (New) A method for the treatment or prophylaxis of impairments of perception, concentration, learning and/or memory comprising administering to a human or animal at least one compound according to any of Claims 1 to 11.